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(54) Title: PROCESS FOR PRODUCING LEVODIONE

(57) Abstract: An enone reductase characterized by a molecular mass of  $61,300 \pm 5,000$  Da; NADPH and NADH as co-factor; a temperature optimum of 55-60°C at pH 7.4; a pH optimum of 4.5-8.5 and a substrate specificity on  $\alpha,\beta$ -unsaturated ketones, especially derived from a yeast and a process for the preparation of levodione from ketoisophorane.



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# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP 03/01537

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 C12P7/26 C12N9/02 C12N15/53

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 C12P C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS, MEDLINE, FSTA, CHEM ABS Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	VAZ ALFIN D N ET AL: "Old yellow enzyme: Aromatization of cyclic enones and the mechanism of a novel dismutation reaction." BIOCHEMISTRY, vol. 34, no. 13, 1995, pages 4246-4256, XP001164161 ISSN: 0006-2960 the whole document --- -/--	1-18

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
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- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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- \*&\* document member of the same patent family

Date of the actual completion of the international search

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# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP 03/01537

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WANNER PETER ET AL: "Purification and characterization of two enone reductases from <i>Saccharomyces cerevisiae</i> " EUROPEAN JOURNAL OF BIOCHEMISTRY, BERLIN, DE, vol. 255, no. 1, July 1998 (1998-07), pages 271-278, XP002202649 ISSN: 0014-2956 the whole document	1-18
P,X	KATAOKA M ET AL: "OLD YELLOW ENZYME FROM <i>CANDIDA MACEDONIENSIS</i> CATALYZES THE STEREOSPECIFIC REDUCTION OF THE C = C BOND OF KETOISOPHORONE" BIOSCIENCE, BIOTECHNOLOGY AND BIOCHEMISTRY, XX, XX, vol. 66, no. 12, December 2002 (2002-12), pages 2651-2657, XP009011699 ISSN: 0916-8451 the whole document	1-18
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A	EP 1 074 630 A (HOFFMANN LA ROCHE) 7 February 2001 (2001-02-07) the whole document	1-18
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International Application No  
PCT/EP 03/01537

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>NIINO YUKO S ET AL: "A new Old Yellow Enzyme of <i>Saccharomyces cerevisiae</i>." JOURNAL OF BIOLOGICAL CHEMISTRY, vol. 270, no. 5, 1995, pages 1983-1991, XP002252406 ISSN: 0021-9258 the whole document</p>	1-18

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International Application No  
**PCT/EP 03/01537**

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